

ABSTRACT

- A method of designing a validation environment for a service implemented by an embedded electrical system. In the method one or more user requests and system responses are assigned. Next, a behavioral automata is assigned to the service, which fixes the allowed sequencing of the user requests and system responses. Then, a skeleton validation environment is automatically generated for the service. The skeleton validation environment includes testing automata produced from a traversal of the behavioral automata, a model of initial conditions, models of user requests, models of system response accuracy, an environmental model, and the dataflow and control flow assembling these models together. The skeleton validation environment covers all user requests and resultant system responses of the service. The skeleton validation environment is then recorded in a computer readable memory device for use by a design validation tool.